

## **Finding Nemo in Puget Sound: parental identification of brown rockfish juveniles**

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The extent of larval retention and natal homing in demersal fish is a topic central to the design and the efficacy of Marine Protected Areas (MPAs). Unfortunately, little is known about effective larval dispersal in many marine species. The duration of the pelagic phase in many species suggests extensive dispersal, and population genetic studies suggest large-scale exchange of migrants. On the other hand, studies on the larval distribution around oceanic islands and within estuaries, as well as mark-recapture studies indicate effective mechanisms of larval retention, in part due to local oceanographic conditions (gyres, eddies), in part because of active larval behavior such as vertical migration. However, even with limited exchange between populations, levels of gene flow are usually sufficient to homogenize allele frequencies among populations, limiting the power of traditional population genetics in estimating rates of larval retention. Here, we use genetic markers to identify the offspring of resident adult brown rockfish (*Sebastes auriculatus*) among incoming settling juveniles on an isolated artificial reef at Pt Heyer in Puget Sound, thus directly estimating rates of self-recruitment on the reef. The project is the first application of genetic parental identification in a marine species, and will provide valuable data for the design and management of MPAs.